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Running Head: FACTORS INFLUENCING SMOKING IN LESBIANS

Personality Traits and Motivational Influences

on Smoking in Lesbians

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Date: 05-06-02

Abstract

Past studies have suggested that lesbians are more prone than heterosexual women to smoke. This study examined whether different aspects of personality and temperament were predictors of tobacco use among lesbian smokers in comparison to lesbian nonsmokers. Participants consisted of 70 lesbians, 18 years or older, who completed an online survey containing the Big Five Inventory (BFI), the Gay Identity Questionnaire (GIQ), Fagerstrom Test for Nicotine Dependence (FTND), and the Star Smoking Motivation Questionnaire (STAR - SMOQ). Results indicated that (1) there was a weaker correlation between smoking for weight suppression than has been reported in past studies of predominantly heterosexual women; (2) counter to past literature results on mostly heterosexual women, neuroticism was not a predictor of smoking or frequency in smoking; (3) more dependant smokers are more likely to be at higher stages of lesbian identity; and (4) that an overall rank ordering of lesbian motivations to smoke is more equivalent to heterosexual men than to heterosexual women.

Introduction

In a 2001 report, United States Surgeon General, David Satcher, declared that a new epidemic is spreading throughout the United States which, since 1980, has prematurely claimed the lives of approximately 3 million citizens and is currently killing an estimated 430,000 Americans per year. These citizens' loss of life has been credited to smoking- related cardiovascular, respiratory, and pediatric diseases (Center for Disease Control [CDC], 2001a).

Federal, state, and local government agencies, professional, and voluntary organizations, and several academic institutions have come together to combat this trend and other health related issues. Components in this goal for a healthy lifestyle consist of tobacco prevention and control programs. Specifically, trends, health effects, and economic costs are being examined. One of these organizations aiding in the strengthening of healthy lifestyles is The Centers for Disease Control and Prevention (CDC). In the analysis of smoking trends, the CDC has called for the identification and elimination of existing differences between various population groups such as racial and ethnic minority groups, low socioeconomic income individuals, and women (CDC, 2001a).

The CDC (2001a) has played a prominent role in the development of a national health promotion and disease prevention agenda entitled "Healthy People 2010." This agenda's goal is to create significant reductions in United States citizens' non-healthy lifestyles during the first decade of the 21st century by improving the quality and expectancy of life and eliminating any health discrepancies (CDC, 2001a). The Surgeon General has called this document the "blue print for health for the coming decade" (Gay and Lesbian Medical Association [GLMA], 2001a).

The "Healthy People 2010" document incorporates numerous goals for the upcoming decade. One of these objectives addresses the most preventable cause of disease related deaths in

America tobacco use. As previously suggested by the CDC, the Healthy People 2010 (priority area 3) report suggests eliminating differences in tobacco use among different population groups, particularly women. The report suggests that one of the means to accomplish this goal is to reduce the rate of cigarette use to no more than 12 percent among women of reproductive ages (CDC, 2001b).

This call by the CDC comes after the loss of 165,00 premature deaths in women alone in 1999 from smoking-related diseases. Moreover, although there appears to be a decrease in cigarette consumption among men, this pattern is less significant among women. In the 1990s, rates of cigarette smoking in women leveled out, but among adolescent girls they began rising at alarming rates (17.9 percent in 1991 to 23.6 percent in 1997.) The fact that this increase exists among adolescent girls may, with time, contribute to an overall increase in the rate of cigarette smoking among women due to the fact that most women begin smoking in their teen years. As of 1998, 22 percent of women smoked cigarettes. If the goals of Healthy People 2010 are to be met, this percentage will need to decrease to less than 12 percent (CDC, 2001b).

The goal of this study is to help achieve Healthy People's 2010's goal in the reduction of smoking among women. The study will facilitate this process by taking one of the major populations of women that are significantly increasing these high smoking rates, lesbians (Aaron, Markovic, Danielson, Honnold, Janosky, & Schmidt; Diamant, Wold, Spritzer, & Gelberg, 2000; Gruskin, Hart, Gordon, & Ackerson, 2001; Skinner, 1994; Valanis, Bwen, Bassford, Whitlock, Charney, & Carter, 2000). First, the motivational states influencing general smoking behavior will be defined. Then this topic will be narrowed to include the targeted problem area of women and the specific factors that increase their likelihood of smoking. Following this review, the specific purpose of the study will be defined. This will include identifying the at - risk population

of women and providing the rationale for why this research is necessary.

Factors have been designed to test what factors may contribute to smoking. These variables may be used in the development of an effective smoking intervention program. Gilbert, Sharpe, Ramamaiah, Detwiler, and Anderson (2000) cite a large amount of literature suggesting drug-use expectancies, goal states, mood, alternative reinforcers, and personality traits are factors that affect smoking. In his 1995 monograph, Gilbert suggests that smoking behavior may be dependent upon situation, trait and motivational states. Situations that affect smoking include cognitive and affective states, such as negative affect, and related relaxing benefits. It is hypothesized that negative affect increases the risk of smoking behavior in smokers by providing an outlet in which they can relax and/or reduce negative affect. Additional examples of situations that may increase smoking behavior are boredom and underarousal. Smokers who are bored or underaroused, may smoke a cigarette in order to create stimulation and alleviate the sense of drowsiness they are experiencing. Gilbert et al. (2000) also point out how smoking is frequently used as a means to reduce weight and suppress appetite. Gilbert et al. (2000) proposed that these perceived benefits, their motivations for, and the effects of smoking contribute to actual smoking behavior. However, these three characteristics are largely affected by the interaction of the situation with particular trait dispositions. Gilbert et al. (1998) proposed that nicotine increases executive, attentional, and approach- related brain activity. Additionally, nicotine can stabilize or reduce the inconsistencies of different attributes in personality, individual emotional processes, as well as attentional capacity, and psychopathology.

By looking at the factors correlated with smoking, effective smoking cessation and prevention plans may be more readily implemented. These studies (Gilbert et al., 1998; Gilbert et al., 2000) aid in identifying the specific factors that are associated with smoking. These factors,

when examined between groups, will take us one step closer in meeting the CDC's (2001a) call for identification and elimination of existing differences between various population groups. Identifying these factors has led to further research studying discrepancies in factors influencing smoking between population groups.

Zuckerman is another prominent researcher on nicotine and has published a wide variety of articles of nicotine related articles. Zuckerman, Ball, and Black (1990) examined the relation between gender and smoking behavior. Zuckerman et al. (1990) identified arousal seeking, attentive-coping, negative emotionality, alone-relaxed, social situations, and heavy smoking as contributors to cigarette use. Attentive coping was identified as situations in which intense attention is required. Negative emotionality was when a person smokes because of intense emotions such as anxiousness or anger. Zuckerman exemplified alone-relaxed situations as occasions where someone may be reading an interesting book or having a peaceful evening at home. Social situations that lead to smoking behaviors are occasions such as parties or talking with friends. A person immediately smoking a cigarette upon waking is defined as a heavy smoker.

Results from Zuckerman (1990) and Gilbert et al. (2000) have suggested similar factors that increase the likelihood of smoking. Although they define these factors with different names, the descriptions of the factors are almost identical. For example, they both suggest situations that call for an increased amount of attention and situations in which nicotine is used to relieve or pacify certain emotions as being significant motivational factors in smoking behavior.

Results of the Zuckerman et al. (1990) study indicated that gender differences exist in smoking trends. Men's scores on attentive-coping were higher than that of women's. However, women's scores were higher than men's in negative emotionality, social situation, and heavy

smoking. Furthermore, Zuckerman and Kuhlman (2000) found similar differences exist in smoking trends. They concluded that women smoke more in emotional and social situations, and men smoke more in situations calling for close attention to a job.

Heath, Madden, Slutske, and Martin (1995) also identified influences on smoking behavior. Women smokers, in comparison to non-smokers, had higher scores on novelty seeking and extraversion, and lower scores on social conformity and social conservatism. Lifetime male smokers also had higher scores on novelty seeking, neuroticism, psychoticism, and political conservatism scores. The male smokers had significantly lower scores on social conformity and social conservatism. Genetics also played a role in smoking. For men, smoking persistence, and for women, smoking initiation were found to have a genetic basis. This heritability of smoking initiation and persistence may be mediated through personality variables (Gilbert & Gilbert, 1995).

Research conducted by Zucker, Harrell, Miner-Rubino, Stewart, Pomerleau, and Boyd (2001) also measured variables related to smoking among college women. They found that college women who accept smoking as a weight management technique and who are exposed to advertisement depicting thinness are at an increased risk for smoking. They concluded that media exposure is directly relates to attitudes about smoking in women. Results suggested that these advertisements, which connect beauty to smoking, contribute to the acceptance of smoking as being a possible means to control weight. Women smokers who internalized social pressures to be thin tend to frequently use of cigarettes as weight control.

To better understand how to reduce the smoking rate among women it is necessary for studies to be conducted on special populations. The current study examines correlates of smoking among a subgroup of women who are particularly susceptible to smoking: lesbians. A

chapter from Healthy People 2010, Tobacco Use (2001), concentrates on illuminating critical health areas that have been too often ignored. This comprehensive, 500-page document provides a review of lesbian, gay, bisexual, and transgender (LGBT) focused literature on tobacco use and its health effects (GLMA News Releases, 2001b).

Many research studies, as suggested in Healthy People 2010 (2001), have recently found lesbians to be at a substantial increased risk for smoking. Studies have suggested that lesbians are significantly more prone than heterosexual women to participate in risky behaviors such as smoking (Diamant, Wold, Spritzer, & Gelberg, 2000; Gruskin, Hart, Gordon, & Ackerson, 2001; Skinner, 1994; Valanis, Bwen, Bassford, Whitlock, Charney, & Carter, 2000). “Healthy People 2010: Lesbian, Gay, Bisexual, and Transgender Health” (2001) cites the Institute of Medicine as finding two times as many lesbians reporting cigarette use than heterosexual women. Diamant et al. (2000) found similar results in her study of 4,661 participants. After controlling for educational attainment, annual income, and employment status, the results indicated that approximately one-third of lesbians report regular tobacco use. A national lesbian health care survey of 1,925 participants conducted by Bradford, Caitlin, and Rothlum (1994) found that 30% of the lesbian responders smoked regularly and an additional 11% were occasional smokers.

There have been several hypotheses proposed by researchers as to why this trend exists. Most of these researchers recognize the “bar culture” of lesbians as a significant contributing factor to the high rates of smoking. They say the social lifestyles of lesbians often are reliant upon bars where drinking and drug abuse is prominent (Aaron, Markovic, Danielson, Donald, Janoaky, & Schmidt, 2001; Cabaj, 1995; Gruskin et al., 2001; Saunders, 1999).

There have been additional contributing factors to lesbian’s high rates of tobacco use. Aaron et al. (2001) hypothesized that lesbians’ consumption rates of cigarettes may be partly due

to nontraditional female social roles. “Healthy People 2010: Lesbian, Gay, Bisexual, and Transgender Health” (2001) written by the National Coalition for Lesbian, Gay, Bisexual, and Transgender Health (LGBT) states “cultural disenfranchisement,” is a common thought among the LGBT community that mainstream society does not apply to them. This presumption may be contributing to the high rates. They also suggest lesbians may believe that smoking is more acceptable for them, because of the general attitudes of the LGBT community frequently being more tolerant of smoking.

“Healthy People 2010” (2001) points out a less often cited source that may be contributing to the high rate of cigarette consumption among lesbians. They suggest that tobacco companies are deliberately marketing LGBT communities by endorsing various charities to make them appear as a “valuable friend.” For example, they point to the Philip Morris Companies Incorporated 1990 donation of more than \$800,000 to AIDS charities. Then the following year, donating \$10,000 to the Gay and Lesbian Alliance.

Another underlying assumption is that lesbians experience stress from marginalization, homophobia, and heterosexism which plays a key role in creating high rates of tobacco use (Aaron et al., 2001; Cabaj, 1995; Gruskin et al., 2001; Travers & Schneider, 1996; Valanis et al., 2000.) Bradford et al. (1994) measured depression in a national sample of 1,925 lesbians and found that depression was linked to other forms of stress such as discrimination both at work and with family members. The high levels of stress among lesbians have also been attributed to the lack of social support and the high rates of domestic violence. In Bradford’s (1994) sample, out of the 1,925 participants, 41 percent of lesbians reported to have been the victim of rape or a sexual attack. Only 35 percent reported seeking assistance after the attack.

The framework constituting the building of this low pursuit of assistance among the

lesbian community has become a question many researchers have studied. These studies examined different barriers to treatment. Why is there a lack of trust among lesbians regarding health care providers (Diamant, 2000; Healthy People 2010, 2001; Saunders, 1999; Traver & Schneider, 1996; & Valanis et al., 2000)? Rankow and Tessaro (1998) conducted a study in which they combined focus group data collected from 44 participants with a self-administered questionnaire completed by 576 participants. Their results indicated that lesbians would more likely take advantage of health care if the provider was sensitive to and knowledgeable about current sexual issues and health concerns faced by lesbians. Those who had reported discrimination from their clinician were less likely to accept medical care. The study also suggested that misperceptions by both health care providers and lesbians about whether or not lesbians were prone to certain medical conditions, contributed to the lack of adequate care received. Physicians often are not aware of risks to lesbians (Valanis et al., 2000). These physicians feel that lesbians, because of lesbian's lack of opposite-sex partners, do not need certain procedures such as cervical cancer screening. Valanis et al. (2000) also discussed additional health concerns for the lesbian community including higher chances of experiencing breast cancer and cardiovascular disease than heterosexual women.

Studies on lesbians as a distinct subgroup of women have often been pioneering efforts in psychology. Saunders (1999) has pointed out that there are obstacles that have prevented lesbians from being included in major research studies. Lesbians are a hard population to access and are not as visible as many subgroups of women are, such as African American or women with low socioeconomic status. Other problems include the lack of openness of some lesbians about their sexual orientation. This lack of openness may be based on a fear of social retaliation among coworkers and friends. Saunders (1999) also suggested that lack of trust among lesbians towards

researchers and their motives is a potential contributor to the difficulty of doing research in this area.

No matter how difficult it may be to assess the lesbian population, a call for further research exists (Aaron et al., 2001; Diamant et al., 2000; Gruskin et al., 2001; Travers & Schneider, 1996). Trends among the lesbian population, such as the increased rate in consumption of cigarettes in comparison to heterosexual women, need to be researched. The “Healthy People 2010” (2001) report calls for changes to affect the factors that influence tobacco use. In order to change the cultural, psychosocial, and environmental factors contributing to cigarette use, research must take place. This research would enable the creation of an appropriate antismoking intervention strategy for the lesbian community in which the specific factors affecting cigarette smoking can be minimized. In order for tobacco control programs to be successful, it is imperative that health care professionals be competent and respectful, as well as knowledgeable of and sensitive to lesbians needs. Diamant et al. (2000) states that with sensitive and nonjudgmental care improved accessibility to health care for lesbians will result.

As previously stated, research indicates that smokers possess neurotic traits such as depression, anxiety, and anger. Smokers are also higher in social alienation and associated traits, including psychoticism, impulsivity, unsocialized sensation-seeking, low conscientiousness, and low agreeableness (Gilbert & Gilbert, 1995). Given these general factors about all smokers and adding factors specifically affecting lesbians, such as homophobia, cultural disenfranchisement, and the “bar culture,” the high rates of tobacco use among lesbians is not surprising. However, studies strictly addressing lesbians and the roles of predisposition are lacking. Overall, there seems to be a general pattern affecting the use of cigarettes and smoking cessation as suggested by Gilbert et al. (2000), Gilbert et al. (1998), and Zuckerman (1990), but we do not know

whether these same determinants hold true for lesbians. Many people assume that both lesbian smokers and nonsmokers share many trait characteristics, such as impulsivity, and that they are often both more socially alienated. So the question remains regarding what exactly accounts for why one lesbian smokes and another one does not.

Data is also lacking on what affects conscious motivation to smoke, desire to smoke, and probability of smoking in different situations among the lesbian community. It is uncertain as to whether these compelling forces are the same for lesbians as it is for heterosexuals. Previous literature has suggested possible causes, but they have not used a theoretical framework to examine the issue. For instance, Gilbert (1995) suggests that smoking may be used as a means for weight suppression in smokers, but Aaron (2001) reports that lesbians typically have higher levels of body fat and that they have higher rates of smoking than heterosexual women. It remains unclear as to whether lesbians are using smoking as a dietary aid.

Research on the etiology of cigarette smoking in younger lesbians is needed (Gruskin et al., 2001). There is a need to examine specific and behavioral health characteristics that contribute to smoking behavior in lesbians (Aaron et al., 2001). Specifically, through self-report questionnaires the proposed study will define different aspects of personality and the various dimensions of temperament that relate to both the onset and the longer lasting problems of tobacco use among college-aged lesbians that smoke in comparison to college - aged lesbian nonsmokers. Although studies have attempted to examine whether a different pattern exists between heterosexual women and lesbian smokers, there is a lack of research on different motivational forces compelling lesbians to smoke. With this data, a more effective smoking intervention program can be developed and implemented in which health care administrators are knowledgeable as to the differences in the lesbian culture.

The current study tested the following three hypotheses: (1) lesbians that are more nicotine dependent compared to others and will exhibit scores indicating higher levels of neuroticism and lower levels of conscientiousness, extravertedness, and agreeableness; (2) participants with high lesbian identity will exhibit lower levels of neuroticism and also be less nicotine dependent; and (3) there will be a weaker correlation between smoking and desire for weight suppression than has been reported in studies of predominantly heterosexual women.

Methods

Participants

Seventy lesbian participants, eighteen years of age and older, were recruited for this completely anonymous study. Twenty-three were smokers and 47 were nonsmokers. The methods of distribution included collecting a convenience sample by: (1) asking several colleges located in the Midwest and other GLBT affiliated organizations for their help in recruiting participants (Appendix A and B); (2) attending 2 gender related sociology classes and distributing promotional bookmarks and business cards (Appendix C) to those interested and using an overhead that included the web site address (Appendix D); (3) leaving promotional tools advertising the survey, such as business cards and bookmarks at events and places such as bars, coffee shops, bookstores, and open and affirming churches (Appendix C); and (4) relying upon a snowballing technique in which those interested voluntarily forwarded the questionnaires or suggested the study to potential participants by means of e-mail, letter, telephone, or personal correspondence. Sixty-six of the participants completed an online version of the study and 4 participants preferred a manual paper and pencil version.

Measures

Nonsmokers completed the *Gay Identity Questionnaire*, the *Big Five Inventory*, as well as 5 demographic questions about age, education level, ethnicity, income, and the average daily

amount of cigarettes smoked. Smokers completed the same 2 questionnaires and demographic questions as the nonsmokers did, as well as *The Fagerstrom Test for Nicotine Dependence*, the *Situation x Trait Adaptive Response Smoking Motivation Questionnaire*, and 7 additional general smoking related questions such as brand preference.

Comfort with sexual identity. The Gay Identity Questionnaire (GIQ) (Brady and Busse, 1994), a brief measure of homosexual identity formation, was used to identify lesbian women in the different stages of homosexual identity formation. These stages consist of six developmental stages in the “coming out” process. These stages consist of: stage 1: total denial of one’s sexuality, stage 2: believing oneself to be attracted to the same sex, but not homosexual, stage 3: accepting that one might be homosexual, but to the public presenting oneself as heterosexual, stage 4: accepting homosexual identity to oneself, but still not publicly admitting identity, stage 5: taking pride in sexual orientation choice and preferring company of those such as self: stage 6: a complete comfort established with regards to preference in sexuality.

The GIQ is derived from The Homosexual Identity Formation (HIF) model proposed by Cass (1979). Through the Kuder- Richardson formula, the GIQ was established using questions consisting of the highest interrater and interitem reliability in two pilot tests and one final administration of the GIQ (Brady and Busse, 1994). The GIQ consists of 45 true-false items to identify the stage of HIF. Brady et al. (1994) reported rates of reliability as being relatively high. Brady et al. found interitem consistency to be: stage 3, (Identity Tolerance), $r = .76$; Stage 4 (Identity Acceptance), $r = .71$; Stage 5 (Identity Pride), $r = .44$; Stage 6 (Identity Synthesis), $r = .78$. The first two stages of Identity Formation were not usable to statistical analysis due to the lack of respondents identified in the first two stages. Brady et al. (1994) did not address the possible reasons to the low interitem consistency for stage 5.

Brady et al. (1994) assessed validity through three of the questions in the GIQ. They also used demographic information such as respondent's age, education, income, religiosity, political values, and HIF stages to measure validity. No significant relations were found between the variables suggesting that the HIF is a valid model independent of the previously mentioned demographic characteristics (age, education, income, etc.). However, there was a significant relation between occupation and stage in the HIF ($\chi^2 = 18.89$, $df=6$, $p < .01$). Findings suggested that students were more likely to identify with stage 3 and stage 4 participants were most likely to have professional occupations compared to those in other stages. Statistical tests also revealed a significant positive correlation between well-being and the stage of HIF, $F(3, 189) = p < .01$.

Personality dimensions. The 44-item Big Five Inventory (BFI) (Benet-Martinez & John, 1998) measured personality traits by using a five-point scale ranging from 1 (disagree strongly) to 5 (agree strongly). The BFI consists of five general personality dimensions including extraversion, agreeableness, conscientiousness, neuroticism, and openness. John (1990) breaks each of these five subgroupings into more distinct personality characteristics. Extraversion is related to activity and energy, assertiveness, positive emotions, and sociability. Agreeableness includes low scores on antisocial, egocentrism, and impersonalness. On the other end of the spectrum descriptors such as altruism, tender mindedness, and modesty are also used to describe agreeableness. Conscientiousness is the ability to control one's emotions by not being impulsive in order to help facilitate goal-directed behavior. Neuroticism is defined as being anxious, depressed, emotional, tense, and moody. Benet-Martinez and John (1998) described neuroticism as being typically the opposite of emotional stability. They described openness as the vastness and complexity of both an individual's mental and experiential life.

The BFI's alpha reliabilities are strong. The range is typically from .75- .90. Retest reliability after three months is also typically strong, ranging from .80-.90. Intercorrelation between the five factors is mostly below .20 making each factor independent of each other (Binet-Martinez & John, 1998).

Nicotine dependence level. The Fagerstrom Test for Nicotine Dependence (FTND) is a brief six-item questionnaire measuring nicotine dependence designed to improve the reliability and validity of the Fagerstrom Tolerance Questionnaire (FTQ) (Becona & Vasquez, 1998). Both the FTND and the FTQ are often used to develop cutoff points to determine dependence versus no dependence, and to rate the dependence as low, medium, or high (Breslau & Johnson, 2000). These two questionnaires, FTQ and the FTND, are the most widely used measures of addiction to cigarettes (Etter, Vu Duc, Perneger, 1999). The FTND measures addiction level through six questions which uses scoring on a 0 (least dependent) to 10 (most dependent) scale (Etter et al., 1999). A score of 4 or higher on the FTND is considered to suggest nicotine dependence (Breslau & Johnson, 2000).

The usefulness of the FTND as a measure of nicotine dependence has frequently been debated (Becona & Vazquez, 1998; Breslau & Johnson, 2000; Etter et al., 1999). Becona and Vazquez (1998) have found the estimated reliability to be .66. Etter et al. (1999) also found that internal reliability barely reached the coefficient alpha recommended level of 0.7, but found the retest reliability high after seven months, $r = 0.85$, $p < 0.001$. Content validity was another item to be lacking in the FTND. In comparison the DSM-IV criterion for being substance dependent, the FTND lacked questions pertaining to desire to reduce the rate of smoking and the number of unsuccessful attempts in quitting smoking. Overall they found the measure to be relatively useful in their population of light smokers, but suggested removing a few items to improve areas of

weakness. Overall the FTND remains one of the most widely used measures of nicotine dependence.

Motivational reasons effecting smoking. The motivation section from The Situation x Trait Adaptive Response Smoking Motivation Questionnaire (STAR-SMOQ) (Gilbert, Sharpe, Ramanaiah, Detwiler, & Anderson, 2000) was used as a means to evaluate the different aspects affecting conscious motivations to smoke. This questionnaire's motivation section relies upon 55 questions to measure items on four scales: cognitive enhancement, pleasure enhancement, negative affect reduction (with subscales including anger, anxiety, and depression), and weight/appetite control.

Using 155 student and adult smokers, Gilbert et al. (2000) measured internal consistency. Results indicated reliability coefficients ranging from .87 to .94. The scale moderately correlated with the Russell Smoking Motivation Questionnaire (RSMQ) and the Revised NEO Personality Inventory Neuroticism Scale. When comparing the STAR-SMOQ to the RSMQ, only 13 out of the 144 positive correlations were not significant. The Revised NEO Personality Inventory Neuroticism scale and the STAR-SMOQ's correlations ranged from $r = .18-.34$, $p < .05$.

Procedure

Three different means of recruitment were used in this study, because of the difficulty in collecting a large and representative sample of lesbians. The first recruitment method relied upon the mailing lists of lesbian affiliated organizations and the personal recruitment at local Lesbian, Gay, Bisexual, and Transgender (LGBT) meetings. A letter containing a brief summary of the research project, and an organizational invitation asking for assistance was mailed out to via email (Appendix A). When personally recruiting, a script containing a cover letter was used (Appendix B). Both the letter and the script detailed the procedures of the study and their role as

a participant. The website address containing all the entire set of questionnaires was posted in the letters, read aloud at the meetings, or contained upon the promotional tools handed out at the meetings (Appendix D).

A second means of recruitment included attending two separate undergraduate gender-related sociology classes at Southern Illinois University Carbondale, a large Midwestern University. An overhead (Appendix D) was used to highlight the purpose and need for their assistance in the study. Business cards (Appendix C) were left in the classrooms and with the instructors.

The third method of recruitment consisted of collecting a convenience sample from local events and places typically frequented by lesbians. Some examples of such places and events included coffee shops, bars, pride days, and concerts. These participants were given the same promotional tools as mentioned before - the business cards and bookmarks. These recruitment aids contained the survey's web address along with general information about the purpose of the study (Appendix C).

By completing the questionnaires, the participant indicated her willingness to participate and her understanding of the procedure. On the web site participants were instructed to click the "I Agree" icon before the questionnaires appeared, and on the pencil-and-paper form, the participant was informed that their completion indicated this understanding and consent.

Results

Sample demographics.

Smoking status was assessed by two smoking-related questionnaires. Someone who smoked five cigarettes or more weekly defined current smoking status. Participants who indicated being a smoker were instructed to complete two additional questionnaires, the FTND

and the STAR SMOQ. Nonsmokers were instructed to click on an icon that took them directly to the five demographic questions. Of the lesbians responding to the survey ($n = 70$), 33% ($n = 23$) fit the criteria for smokers and the remaining 67% ($n = 47$) were nonsmokers. There was no statistically significant difference in smoking status and age ($r = -.13$, $p > .05$) or smoking status and income ($r = -.12$, $p > .05$). However, educational level was negatively related to smoking behavior ($r = -.27$, $p < .05$). Low education attainment does not seem to suggest smoking among lesbians. Additional demographic characteristics are presented in Table 1.

Personality dimensions related to gay identity.

Because this study is exploratory and based on a small sample size, the significance level was set at $p < .10$ instead of the conventional $p < .05$. The results indicated that Neuroticism was negatively related to four of the six stages measured by the Gay Identity Questionnaire. Scores on Confusion ($r = -.36$, $p < .01$), Comparison ($r = -.33$, $p < .05$), Tolerance ($r = -.26$, $p < .10$), and Pride ($r = -.24$, $p < .10$) stages all were negatively correlated with Neuroticism.

Extraversion was positively related to stage 4, identity acceptance (i.e. accepting homosexual identity to oneself, but still not publicly admitting identity) ($r = .22$, $p < .10$). Interestingly, Extraversion was negatively related to the fifth stage, identity synthesis (i.e. a complete comfort established with regards to preference in sexuality) ($r = -.30$, $p < .05$). See Table 2 for more results relating to the personality dimensions.

Smoking status related to gay identity.

Responses to the Gay Identity Questionnaire indicated that lesbian nonsmokers are significantly more likely to be in the second stage of the "coming out process" (comparison) than

smokers ($r = -.20, p < .10$). This stage was defined by believing oneself to be attracted to the same sex, but not homosexual. No other significant differences were found between smoking status and stage of "coming out." However, the degree of nicotine dependence among smokers was significantly negatively related to identity stage based on the GIQ. Identity Acceptance, the fourth stage, was negatively correlated with smoking dependence ($r = -.41, p < .10$). The final two stages, Identity Pride ($r = .37, p < .37$) and Synthesis ($r = .37, p < .37$), were positively related to the degree of nicotine dependence. These results indicate that a lesbian that is comfortable with her sexual identity is more likely to be nicotine dependant than one who is not as comfortable (See Table 2). The findings are counter to the hypothesis.

Motivations for smoking based on STAR-SMOQ.

Among lesbians, nicotine dependant smokers tend to be motivated to smoke more for cognitive enhancement than are less dependant smokers ($r = .45, p < .05$). Table 3 shows the results from correlation analysis of the motivational influences on smoking. Lesbians ($n = 70$) are compared to Gilbert's (2000) college- aged sample of 92 (mostly) heterosexual women. In rank order, lesbians indicated smoking motivations as being primarily related to pleasure enhancement, to reduce negative affect (with subscales including anger, anxiety, and depression), followed by cognitive enhancement, and finally to control weight or appetite. Gilbert's (2000) sample indicated that in his sample of 92 women, negative affect reduction was the number one motivation to smoke, followed by weight or appetite suppression, followed by pleasure enhancement. The least influencing motivation was cognitive enhancement. Differences between the two samples indicated that lesbians are least likely to smoke to suppress weight and appetite, but instead are more likely to smoke to enhance pleasure.

Comparing smoking motivations of lesbians to the Gilbert et al. (2000) sample of 123 predominantly heterosexual college - aged men, reveals interesting similarities. Both lesbians in the current study and men in the Gilbert et al. (2000) study had the same rank order for smoking motivation: pleasure enhancement, reduction of negative affect, cognitive enhancement, and lastly weight appetite control. Table 3 illustrates these rank orderings.

Predictors of smoking based on personality dimensions.

Inconsistent with past research conducted by Gilbert and Gilbert (1995) on college-aged women with mostly heterosexual sexual orientation, the present study on lesbians indicated that the more a lesbian smoker is nicotine dependant the less likely she is to indicate having traits associated with neuroticism (being anxious, depressed, emotional, tense, and moody) ($r = -.30$, $p < .10$). Also contrary to the earlier hypotheses, the results indicated that a greater degree of nicotine dependence was negatively related to openness ($r = -.49$, $p < .10$). In support of most of the second hypothesis (lesbians that are more nicotine dependent will exhibit scores indicating higher levels of Neuroticism and lower levels of conscientiousness, extravertedness, and agreeableness) this study found that the more lesbians are nicotine dependent, the less likely they were to have scores indicating high agreeableness ($r = -.29$, $p < .10$), conscientiousness ($r = -.28$, $p < .10$), and extraversion ($r = -.27$, $p < .10$).

Smoking frequency relationship to dependence level.

As expected, scores from the FTND were positively correlated with the number of cigarettes smoked per day indicated that participants who smoked a higher amount of cigarettes daily were more nicotine dependent than less frequent smokers ($r = .841$, $p < .01$). This provides

support for the use of the FTND in a relatively small sample of predominantly light smokers to measure nicotine dependence.

Discussion

Health – care professionals continue to be concerned about increased smoking trends among women. Cultural, psychosocial, and environmental factors affecting tobacco use among women must be continually researched. Furthermore, examination of smoking influences among specific subpopulations is important to create more effective smoking cessation programs and more knowledgeable health administrators. Such research would also help achieve the goals of Healthy People 2010 (2000) to address disparities among special populations.

The results of this study support previous literature that indicates that lesbians are “one of these subpopulations that is at an increased risk for smoking” (Diamant, Wold, Spritzer, & Gelberg, 2000; Gruskin, Hart, Gordon, & Ackerson, 2001; Skinner, 1994; Valanis, Bwen, Bassford, Whitlock, Charney, & Carter, 2000). In Healthy People 2010 (2001) the Surgeon General is cited as reporting that 22% of women smoked cigarettes in 1998. The results of this study suggest that this sample of lesbians is at an increased risk for smoking. Thirty-three percent of the current study's sample of lesbians reported being smokers. This percentage of lesbian smokers is consistent with the previous mentioned literature. Diamant et al. (2000) found similar results in her study of 4,661 participants. After controlling for educational attainment, annual income, and employment status, Diamant's results indicated that approximately one-third of lesbians report regular tobacco use.

This investigation also shows the importance that continuous research will play in meeting the Healthy People 2010 goal of reducing the rate of cigarette use to not more than 12% among women. This research has identified personality traits that are not correlated with

smoking for lesbians, as past health administrators most likely would have assumed when using past research as a guide. High Neuroticism has been believed to be a significant predictor of smoking (Gilbert & Gilbert 1995), however the current study sheds doubt on the generalizability of this association for lesbians. Although neuroticism was negatively associated with four (confusion, comparison, tolerance, and pride) of the six stages of gay identity, and negatively correlated with the degree of nicotine dependence, the influence of gay identity on smoking does not appear to be explained by neuroticism.

Four out of the six stages of lesbian identity development were negatively correlated with neuroticism. Health care professionals should look beyond the big five Theory of Personality in order to determine whether there are more specific personality traits that are associated with smoking and nicotine dependence among lesbians.

This research overcame many of the limitations of past studies by assessing the differences in motivations for smoking among lesbians. Past research has focused on a predominantly heterosexual sample. The results indicated that lesbians smoke primarily for pleasure enhancement and not to reduce negative affect as the Gilbert et al. (2000) study of predominantly heterosexual women indicated.

Comparison's of smoking motivations in lesbians and men ($n = 123$) in the Gilbert et al. (2000) study reveals interesting similarities. Both lesbians in the current study and men had the same rank order for smoking motivation: negative affect, cognitive enhancement, and lastly weight/ appetite control. However, women in the Gilbert et al. (2000) study smoked primarily to reduce negative affect, followed by a means for weight/ appetite control, then for pleasure enhancement, and lastly for cognitive enhancement. Further research including a masculinity

scale for lesbians may help indicate why this similarity exists between lesbians and men, but not women.

Along with incorporating a masculinity scale, future research should include measures that more specifically assess the personality traits frequently associated with smoking behavior. Although the STAR SMOQ included subscales with questions that measured these factors, a more in - depth examination of impulsivity as a dimension of temperament is needed. The current research on lesbians differs from Gilbert's (2000) sample of women on smoking motivation, but future research could determine whether there are sexual orientation differences on specific personality traits, such as impulsivity.

This study relied upon a small convenience sample that cannot be considered a random sample nor generalizable to all lesbians. Participants interested about the health concerns of lesbians, as well as being active in the lesbian community most likely created a volunteer bias. Even though the study was completely anonymous, some lesbians are hesitant to disclose their sexual identity and may have not responded and were therefore underrepresented. Problems with collecting a representative sample emerge from the survey being predominantly computer based. As of 1998 only 42% of households had a computer. This method of data collection may have confounded the results by under representing those who do not have computers (Dillman, 2000). With a small sample size the current study could not control for race/ ethnicity. Additionally, a larger sample of smokers is needed for a more in - depth analysis of smoking - related factors is needed in order to produce more significant results.

Finally this sample of lesbians was very diverse in age making it difficult to compare with Gilbert's samples of college students. Future research should use the same methodology for

samples of lesbians and heterosexual males and females in order to produce the most valid and generalizable results.

This exploratory study on personality traits and motivational influences on smoking among lesbians produced important results with clinical implications: (1) there was a lower correlation between motivations for smoking for weight suppression than has been reported in studies of heterosexual women; (2) in contrast to past findings based on mostly heterosexual women, neuroticism was not a predictor of smoking or frequency in smoking; and (3) the more nicotine dependence among lesbian smokers was positively, not negatively associated with higher scores of gay identity. Interestingly, results also indicated that the overall rank ordering of lesbians' motivations to smoke is more equivalent to men's motives than to heterosexual women's motives. Clearly additional research on a larger sample of lesbian nonsmokers and smokers is needed to help develop culturally appropriate interventions for this community.

Table 1
Frequencies for Demographic Predictors
in Self-Reports of Lesbians (N = 70)

Variable	Frequency	%
Age		
18 – 24	27	38.6
25 – 31	8	11.4
32 – 38	8	11.4
39 – 44	11	15.7
Over 44	15	21.4
Cigarette Amount		
0	47	67.1
1 – 5	0	0
6 – 10	8	7.1
11 – 15	1	11.4
16 – 20	6	1.4
21 – 25	2	8.6
26 – 30	1	2.9
31 – 35	0	1.4
36 – 40	0	0
Greater than 40	0	0
Education		
8 th Grade	0	0
High School	20	28.6
Trade School or other 2 year degree	9	12.9
Bachelors	21	30.0
Some past a 4 year degree	9	12.9
Masters	10	14.3
Income (in dollars)		
0 – 15,000	27	38.6
15,001 – 30,000	16	22.9
30,001 – 40,000	8	11.4
40,001 – 50,000	9	12.9
50,001 – 60,001	3	4.3
60,001 – 70,001	2	2.9
70,001 & above	4	5.7
Race		
African American	3	4.3
Caucasian	63	90.0
Asian	2	2.9
Other	1	1.4

Table 2
Correlational Descriptive Statistics
(N = 70)

	Non Smokers (n=47)		Smokers (n=23)		AG	CN	EX	NE	OP	CMP	CNF	ACC	PRI	SYN	TOL	CE	NA	PE	WA
	Mean	SD	Mean	SD															
AG	2.28	0.78	1.99 ^b	0.56															
CN	2.15	0.76	2.16	0.88	.46*														
EX	2.52	0.73	2.39	0.76	.31*	.41*													
NE	3.17	0.69	3.14	0.80	-.34*	-.39*	-.06												
OP	2.23	0.68	2.13	0.80	.38*	.38*	.40*	.03											
CMP	0.09 ^a	0.21	0.02	0.07	.17	.13	-.01	-.33*	-.03										
CNF	0.04	0.15	0.01	0.04	.16	-.01	-.04	-.36*	-.06	.61*									
ACC	0.27	0.31	0.29	0.31	.04	.09	.22*	.01	.14	.32*	.16								
PRI	0.38	0.25	0.35	0.22	.14	.04	-.10	-.24*	-.09	-.11	-.18	-.45*							
SYN	0.58	0.29	0.61	0.25	-.09	-.06	-.30*	.17	-.09	-.41*	-.41*	-.68*	.34*						
TOL	0.12	0.25	0.06	0.13	.10	.13	.14	-.26*	-.03	.81*	.47*	.51*	-.17	-.52*					
CE			3.89 ^c	3.00	.01	-.04	.18	-.07	-.13	-.28	.10	-.19	.35*	.01	-.06				
NA			4.13	2.71	-.10	.23	.23	-.31	-.10	-.06	.09	-.08	.38*	-.10	.08	.77			
PE			5.21	3.35	-.07	.20	.29	-.32	.01	.01	.30	-.02	.31	-.28	.22	.72	.84		
WA			3.50	3.14	.10	.14	.27	-.03	.05	.16	.25	-.03	-.12	-.12	-.01	.59	.66		
FTND			2.17 ^c	2.33	-.29	-.28	-.27	-.30	-.49	-.19	-.23	-.41*	.37*	.37*	-.20	.45	.29	.56	.08

^aSignificantly different by smoker type, $r = -.20$, $p < .10$

^bSignificantly correlated with amount of cigarettes smoked, $r = -.22$, $p < .10$

^cSignificantly correlated with amount of cigarettes smoked, $r = .40$, $p < .10$

^dSignificantly correlated with amount of cigarettes smoked, $r = .84$, $p < .10$

BFI abbreviations – AG = Agreeableness, CN = Conscientiousness, EX = Extravertedness, NE = Neuroticism, OP = Openness

GIQ abbreviations - CMP = Comparison, CNF = Confusion, TOL = Tolerance, ACC = Acceptance, PRI = Pride, SYN = Synthesis

STAR-SMOQ abbreviations- CE = Cognitive Enhancement, NA = Negative Affect, PE = Pleasure Enhancement, WA = Weight/ Appetite Control

FTND – nicotine dependence level

Table 3
Motivational Predictors on Smoking Using the STAR-SMOQ^a
^aIndicates data collected by Gilbert (2000).

Rank	Lesbians	*Men	*Women
	(N=70)	(N=123)	(N=92)
1	PE	PE	NA
2	NA	NA	WA
3	CE	CE	PE
4	WA	WA	CE

^a PE = Pleasure Enhancement, WA = Weight/ Appetite Concerns, CE = Cognitive Enhancement,
 NA = Negative Affect Reduction

Appendix A Organizational Invite

Date

Erin Aholt

Department of Psychology

E-mail: erina@siu.edu

(618)-453-3542

Dear Name of Organization,

The Centers for Disease Control and Prevention (CDC) has recently reported tobacco as being responsible for the annual deaths of approximately 430,000 Americans. The CDC has collaborated with other professional organizations, such as the Gay and Lesbian Medical Association (GLMA), in developing a national health promotion and disease prevention agenda entitled "Healthy People 2010." The Surgeon General has called this document the "blueprint for health for the coming decade." A chapter of this 500-page book is about the multicultural LGBT community. This chapter identifies multiple studies that all suggest lesbians as being significantly more prone than heterosexual women to participate in risky behaviors such as smoking. The Institute of Medicine has found that two times as many lesbians report cigarette use than heterosexual women. Reports suggest that up to 30 percent of lesbians smoke regularly and additional 11 percent occasionally smoke.

Although there has been studies assessing the rates of cigarette consumption in the lesbian community, there is a lack of studies to suggest why this pattern exists. In order to create more effective smoking intervention programs, in which health care administrators are capable of focusing on the specific needs of lesbians, it is necessary to study what motivational factors influence smoking behavior. Within the lesbian community, it is also essential to examine what certain personality factors are associated with smoking status. For example, do lesbian smokers have higher rates of openness and neuroticism than nonsmokers do? There have been underlying assumptions, but nothing concretely addressing this issue.

"Healthy People 2010" has called for the percentage of women smokers to decrease too less than 12 percent. They call for research that would enable the creation of an appropriate antismoking intervention strategy for the lesbian community in which the specific factors effecting cigarette smoking can be minimized.

I am asking your organization for assistance in reaching this goal. In a collaborative effort at Southern Illinois University Carbondale to reduce smoking rates among women, I designed my senior honor's thesis to address many of the concerns and calls for research outlined in "Healthy People2010." However, I need a large representative sample in order to guarantee the most valid results. Through organizations such as your owns mailing list, we can reach this goal.

Specifically, I would like to obtain e-mail addresses of potential participants. Through these e-mail addresses, I would send the 4 one-time questionnaires that take approximately 20 minutes to complete. Everything will remain completely confidential. This project has been reviewed and approved by the Human Subjects Committee at SIUC as adequately safeguarding the subject's privacy, welfare, civil liberties, and rights.

Thank you for your time and consideration. It's only with the generous help of organizations like yours that our research can be successful.

Sincerely,

Erin Aholt
Senior Honor Student
Department of Psychology
Southern Illinois University Carbondale
(618)-453-3542

Peggy Stockdale, Ph.D.
Department of Psychology
Mailcode 6502
Southern Illinois University Carbondale
(618)-453-3549

Appendix B Cover Letter

Date

Erin Aholt<erina@siu.edu

Subject: Personality and Behavior Survey

This is a survey on motivational and behavioral factors influencing women who have had same-sex relations smoking status. By participating in this study, you will be indirectly assisting the Centers for Disease Control, the Gay and Lesbian Medical Association, and numerous other professional organizations in reducing lesbian smoking rates. Recently, many studies have suggested lesbians as being significantly more prone than heterosexual women to participate in risky behaviors such as smoking. Reports indicate that up to 30 percent of lesbians smoke regularly and an additional 11 percent occasionally smoke. In order to counteract this trend a more effective smoking intervention plan must be implemented in which health care administrators are knowledgeable to the specific needs of the lesbian community. This knowledge can be developed through an assessment of the personality traits associated with lesbian preference in smoking status, as well as the study of the behavior that contribute to smoking behavior in lesbians.

As of now there is a lack of research suggesting why this high pattern of cigarette use exists in the lesbian community. Due to the fact that you have previously identified yourself as a women having or have recently had same sex relationships, I am asking for your assistance in a senior honor's thesis being conducted in a collaborative effort at Southern Illinois University Carbondale to reduce smoking rates among women. The 4 one-time questionnaires should take approximately 20 minutes to complete if you are a smoker (smoke 5 or more cigarettes in a week), and 10 minutes if you are a nonsmoker (smoke less than 5 cigarettes in a week). This study is being conducted as part of a requirement for a psychology senior honors thesis in psychology.

There are two ways to complete this survey:

1. Click on the web sight address below, insert your responses by clicking the answer you have selected, and when you have completed the questionnaires click "Submit."
<http://mccoy.lib.siu.edu/~aholt/>

(You may have to type this address directly into your browser.)

2. Print the documents and mail the responses to:
Peggy Stockdale
Department of Psychology
Mailcode 6502
Southern Illinois University IL, 62901

The information that you provide will be kept completely confidential and will only be used in summaries describing the results in which individual's answers can not be distinguished between. When we receive the completed survey, your name will be removed from our emailing list. From that point, there will be no way in which connection between your responses and name

can be made. Your participation in this research is completely voluntary and you may discontinue answering the questions at any time without penalty. However, your contribution of only 20 minutes will play a major part in our research and will greatly be appreciated.

This project has been reviewed and approved by the SIUC Human Subjects Committee. Any questions that you have about this research can be addressed by the Committee Chairperson through the Office of Research and Development and Administration, Southern Illinois University at Carbondale, IL 62901, (618)-453-4533, siuhsc@siu.edu.

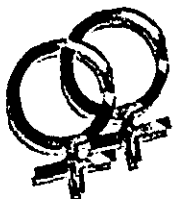
Completion of the survey indicates that you have read the above information and have had any questions answered to your satisfaction. Thank you very much for helping with this important study.

Sincerely,

Erin Aholt
Senior Honor Student
Department of Psychology
Southern Illinois University Carbondale
(618)-453-3542

Peggy Stockdale, Ph.D.
Department of Psychology
Mailcode 6502
Southern Illinois University Carbondale
(618)-453-3549

Appendix C
Promotional Tools



Help us collect more information
about the lesbian community.
Your input is greatly needed.
Please complete the short survey
at the following web site.

This opportunity expires **March 15**
so click today!

<http://mccoy.lib.siu.edu/~aholt/>



**Your input is greatly
needed!**

There is too little
quality research con-
ducted about
lesbians. Southern
Illinois University is
looking for smoking
and non-smoking
lesbians to help out
with a short online
survey. Please contact
us at the below website
& let us know a little
about you. The survey
is completely
anonymous!
No personal
information is re-
quired.
This opportunity
expires **May 15**
so click today!

**Please click the
below web site
and help out.**

<http://mccoy.lib.siu.edu/~aholt/>



Appendix D
Overhead

Personality and Behavior Survey

PROBLEM:

- Tobacco is responsible for the annual deaths of 430,000 Americans.
- Women's rates of cigarette consumption have began rising at alarming rates.
- Lesbians are a population that is significantly contributing to this high percentage rate. A national lesbian health care survey found that 30% of the lesbian responders smoked regularly and an additional 11% were occasional smokers
- In order to create more effective smoking intervention programs, in which health care administrators are capable of focusing on the specific needs of lesbians, it is necessary to study what motivational factors influence smoking behavior.

HOW YOU CAN HELP:

- If you are a women who has had or currently having same sex romantic relationships complete a short online survey and then forward it to anyone else you believe that may interested.
- If you are not a homosexual but know of someone who may be interested, let them know about the research.

The web address is: <http://mccoy.lib.siu.edu/~aholt/>

- Any questions/comments please email me at erina@siu.edu.

References

- Aaron, D.J., Markovic, N., Danielson, M.E., Honnold, J.A., Janosky, J.E., & Schmidt, N.J. (2001). Behavioral Risk Factors for Disease and Preventive Health Practices Among Lesbians. *American Journal of Public Health*, 91, 972-975.
- Breslau, N., & Johnson, E.O. (2000). Predicting Smoking cessation and Major Depression in Nicotine-Dependent Smokers. *American Journal of Public Health*, 90, 1122-1126.
- Becona, E. & Vazquez, F. (1998). The Fagerstrom Test for Nicotine Dependence in a Spanish Sample. *Psychological Reports*, 83, 1455-1458.
- Benet-Martinez, V. & Oliver, J.P. (1998). Los Cinco Grandes Across Cultures and Ethnic Groups: Multitrait Multimethod Analyses of the Big Five in Spanish and English. *Journal of Personality and Social Psychology*, 75, 729-750.
- Bradford, J., Ryan, C., & Rothblum, E.D. (1994). National Lesbian Health care Survey: Implications for Mental Health Care. *Journal of Consulting & Clinical Psychology*, 62, 228-242.
- Brady, S. & Busse, W.J. (1994). The Gay Identity Questionnaire: A Brief measure of Homosexual Identity Formation. *Journal of Homosexuality*, 26, 1-22.
- Breslau, N. & Johnson, E.O. (2000). Predicting Smoking Cessation and Major Depression in Nicotine- Dependent Smokers. *American Journal of Public Health*, 90, 1122-1127.
- Cabaj, R.P. (1995). Sexual Orientation and the Addictions. *Journal of Gay & Lesbian Psychotherapy*, 2, 97-117.
- Cass, V.C. (1979). Homosexual identity formation: A Theoretical model. *Journal of Homosexuality*, 4, 219-235.
- Centers for Disease Control and Prevention. (2001a). Targeting Tobacco Use: The

Nations Leading Cause of Death. Retrieved October, 9, 2001, from
<http://www.cdc.gov/tobacco/overview/oshag.htm>

Centers for Disease Control and Prevention. (2001b). Women and Smoking: A Report of the Surgeon General-2001. Retrieved October, 9, 2001, from
http://www.cdc.gov/tobacco/sgr/sgr_forwomen/ataglane.htm

Department of Health and Human Services. (2000) *Healthy People 2010*. Conference Edition, (in two volumes). Washington DC.

Diamant, A. (2001). Funding for More Research is Urgently Needed. *Western Journal of Medicine*, 172, 384-385.

Dillman, D.A. (2000). Mail and Internet Surveys. The Tailored Design Method (2nd ed). New York: John Wiley & Sons, Inc.

DuNah, R.E., Holly, E.A., & Ahn, D.K. (1991). Demographics and Cigarette Smoking among Women. *Preventive Medicine*, 20, 262-269.

Etter, J.J., Vu Duc, T., & Perneger, T.V. (1999). Validity of the Fagerstrom Test for Nicotine Dependence and of the Heaviness of Smoking Index among Relatively Light Smokers. *Addiction*, 94, 269-281.

Gilbert, D.G. (1995) Smoking: individual differences, psychopathology, and emotion. Washington, DC: Taylor & Francis.

Gilbert, D.G., & Gilbert, B.O. (1995). Personality, Psychopathology, and Nicotine Response as Mediators of the Genetics of Smoking. *Behavior Genetics*, 25, 133-146.

Gilbert, D.G., McClellon, F.J., Rabinovich, N.E., Plath, L.C., Jensen, R.A., & Meliska, C.J. (1998). Effects of Smoking Abstinence on mood and Craving in Men: Influences of Negative-Affect-Related Personality Traits, Habitual Nicotine Intake, and Repeated

Measurements. *Personality and Individual Differences*, 25, 399-423.

Gilbert, D.G., Sharpe, P., Ramanaiah, N.V., Detwiler, F.R.J., & Anderson, A.E. (2000). Development of a Situation x Trait Adaptive Response (STAR) Model-Based Smoking Motivation Questionnaire. *Personality and Individual Differences*, 29, 65-84.

GLMA New Releases. (2001a). Gay Docs Applaud US Surgeon General's "Call to Action". Retrieved October, 2, 2001 from <http://www.glma.org/news/releases/n010629applaudsatcher.html>

GLMA News Releases. (2001b). Landmark Report on LGBT Health Released. Retrieved October, 2, 2001 from <http://www.glma.org/news/releases/n010330hp2010cd.html>

Gruskin, E.P., Hart, S., Gordon, N., & Anderson, L. (2001). Patterns of Cigarette Smoking and Alcohol Use Among Lesbians and Bisexual Women Enrolled in a Large Health Maintenance Organization. *American Journal of Public Health*, 91, 976-979.

Tobacco Use: Healthy People 2010 Goal. (2001). Healthy People 2010: Lesbian, Gay, Bisexual, and Transgender Health, 352-375.

Heath, A.C., Madden, P.A., Slutske, W.S., & Marin, N.G. (1995). Personality and the Inheritance of Smoking Behavior: A Genetic Perspective. *Behavior Genetics*, 25, 103-116.

John, O. P. (1990). The "Big Five" Factor Taxonomy: Dimensions of Personality in the Natural Language and in Questionnaires. In L.A. Pervin (Ed.), *Handbook of Personality Theory and Research* (pp.66-100). New York: Guilford Press.

Kassel, J.D. (1997). Smoking and Attention: A review and Reformulation of the Stimulus-Filter Hypothesis. *Clinical Psychology Review*, 17, 451-478.

Rankow, E.J. & Tessaro, I. (1998). Cervical Cancer Risk and Papanicolaou Screening in

a Sample of Lesbian and Bisexual Women. *Journal of Family Practice*, 47, 139-143.

Saunders, J.M. (1999). Health Problems of Lesbian Women. *Nursing Clinics of North America*, 34, 381-391.

Sher, K.J., Bartholow, B.D., & Wood, M.D. (2000). Personality and Substance Use Disorders: A Prospective Study. *Journal of Consulting and Clinical Psychology*, 5, 818-829.

Skinner, W.F. (1994). The Prevalence and Demographic Predictors of Illicit and Licit Drug use among Lesbians and Gay Men. *American Journal of Public Health*, 84, 1307-1310.

Travers, R. & Schneider, M. (1996). Barriers to Accessibility for Lesbian and Gay Youth Needing Addictions Services. *Youth and Society*, 27, 356-377.

Valanis, B.G., Bowen, D.J., Bassford, T., Whitlock, E., Charney, P., & Carter, R.A. (2000). Sexual Orientation and Health: comparisons in the Women's Health Initiative Sample. *Archives of Family Medicine*, 9, 843-853.

Zucker, A.N., Harrell, Z.A., Miner-Rubino, K., Stewart, A.J., Pomerleau, C.S., & Boyd, C.J. (2001) Smoking in College Women: The Role of Thinness Pressures, Media Exposure, and Critical Consciousness. *Psychology of Women Quarterly*, 25, 233-241.

Zuckerman, M., Ball, S., & Black, J. (1990) Influences of Sensation Seeking, gender, Risk Appraisal, and Situational Motivation on Smoking. *Addictive Behaviors*, 15, 209-220.

Zuckerman, M. & Kuhlman, D.M. (2000). Personality and Risk-Taking: Common Biosocial Factors. *Journal of Personality*, 68, 999-1029.